

## ABSTRACT

The invention provides a method for the expression, purification, and structure recovery, of hydrophobic proteins, polypeptides or peptides in non-aggregated form, and for their convenient association with lipidic molecules. The method includes the steps of designing a fusion protein which contains in its amino acid sequence a hexa-His tag, and subsequently expressing the fusion protein using a vector in such a way as to target the expressed protein to bacterial inclusion bodies. The fusion protein also includes the desired hydrophobic protein, polypeptide or peptide and cyanogen bromide cleavage site or sites. The method also teaches isolation of the inclusion bodies, subsequent cleavage of the fusion protein, and purification of the recombinant protein, polypeptide or peptide using Nickel-chelate chromatography. The method also teaches recovery of the hydrophobic protein, polypeptide or peptide in unaggregated form with natural conformation and secondary structure and optimal association of the hydrophobic protein, polypeptide or peptide with lipidic molecules by dissolution in acidic organic solvents.